Travancore. The restoration and repair of minor irrigation works in the taluks of Tovala and Agastisvaram and the area comprising the old taluks of Eraniel and Kalkulam will, however, be done at the sole cost of the Government in conformity with past usage. In regard to the Trivandrum taluk, a committee has been appointed to examine the condition of minor irrigation works in the taluk, suggest the works to be undertaken and the order of their urgency, consider the cost of such works, and propose measures for securing the co-operation of the people concerned to the fullest extent possible.

15. The constitution of Irrigation Boards for the pumping of water from, and the regulation of cultivation on, *punja* lands in Central and North Travancore is under correspondence with the Land Revenue Commissioner. That officer proposes to hold a meeting of the ryots interested and Government hope to receive his final report on the matter at an early date. A preliminary investigation, by the Public Works Department, of the feasibility of utilising the water of the Sastamkotta fresh water lake for irrigational purposes is in progress. As regards the Adirappalli Project which was referred to in my last year's Address, Government regret to have to say that its execution is held up by certain objections raised by the Cochin Government.

16. As promised in paragraph 9 of my Address last year, I inspected the Kallada valley and the flood banks of the Kallada river in Tulam last, in company with the Chief Engineer. While it is realised that the best remedy for averting the inundation of this valley is the boring of a tunnel through the side-ridge separating the valley from the Ashtamudi backwater, it is proposed, before undertaking this costly project, to try the cheaper expedient of setting back the flood banks of the river and repairing the breaches and other damages so far caused, and then watch the effect of these works. An estimate has already been sanctioned for closing the breaches on the eastern bank of the river, while another estimate is under preparation for repairing the damages to the western bank.

17. A further examination of the question of giving one of the engineering officers of the State special training in agricultural engineering has disclosed that no such special training is necessary so far as the handling of drainage problems is concerned, as the success of that work depends upon the general engineering qualifications and the local experience of the officer concerned, in regard to both of which the regular engineering staff of the P. W. D. is sufficiently well-equipped. The necessity for giving special training in agricultural engineering, in the generally understood sense of that term, *viz.*, in engineering connected with the improvement of mechanical appliances used in agriculture, has also been obviated by the recent employment, as Agricultural Engineer, of the State scholar, Mr. K. P. Padmanabha Menon, who has received such training in the course of his foreign studies.

18. Economic Development Board.—This Board, which is composed of 20 members, of whom 14 are non-officials, has held 7 meetings since its formation. The Board has been empowered to deal with all questions of policy relating to the working of the Development Departments irrespective of any reference from outside, thus giving it considerable scope for initiative. Among the problems which have engaged the attention of the Board, special mention should be made of the extension of paddy cultivation, the manufacture of scientific manures, the formation of agricultural colonies, the improvement of minor irrigation, the utilisation of hydro-electric power for the improvement of industries, the promotion of banking facilities, the development of the co-operative movement, and the organisation of fresh cottage and other industries. All the recommendations of the Board are engaging the careful attention of the Government.

19. Agriculture.—The work of the Agricultural Department has continued to show satisfactory progress. The grant for this department, which stood at Rs. ·95 lakhs in 1094, has been increased to Rs. 2·322 lakhs during the current year. Experiments on paddy continued to be conducted in the paddy farm at Tiruppatisaram for the discovery of the cheapest and most effective manure for paddy lands in South Travancore, and of early varieties of paddy for

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cultivation at the tail-ends of the Kodayar irrigation channels where the crop frequently suffers from drought. These experiments have been fruitful of practical results. The experiment of annual, as opposed to biennial, cultivation of *punja* lands was successfully repeated for the fifth time at the experimental *punja* farm at Alleppey. The department is now demonstrating the success of this experiment in four more places, *viz.*, Kumarakam, Vembanad New Reclamation, Ramankari and Karunadi. Dr. Kunjan Pillai reports that already 3,500 acres of *punja* lands which would have remained fallow under normal conditions, were cultivated by the ryots during 1097, as a result of the experiments conducted at the Alleppey farm. Demonstrations of improved methods of cultivating paddy were conducted on ryots' lands in as many as 34 centres during the year, resulting in an increased average net profit of Rs. 17 per acre. There are extensive areas of lands in Central and North Travancore which, if reclaimed, would substantially increase the production of paddy in the country. The problems involved in their reclamation, however, are more biological than chemical, and with a view to successfully tackle them Government have decided to give a course of training in bacteriology to the Ag. Agricultural Chemist in the Agricultural Research Institute at Pusa. Demonstrations were conducted in the cocoanut farm at Alleppey to show how sandy wastes could be profitably converted into cocoanut gardens, with the result that already a large extent of such lands in the neighbourhood has been successfully planted with cocoanut. It is now proposed to open a fresh cocoanut demonstration farm at Vaikam. It is also proposed to open a ginger farm at Ettumanur to improve the cultivation of that important commercial crop. The development of fruit cultivation is another matter engaging the earnest attention of the department. Arrangements in regard to the opening of a fruit farm in South Travancore have been completed and the Director has been instructed to open one or more fruit farms on the High Ranges to try experiments in grafting and budding in the case of the jack and the mango and to extend the cultivation of pine-apple, for which there is great scope, with a view to create facilities for the eventual establishment of a canning industry. Successful demonstrations were given with the Fordson tractor both on wet and on dry lands where the soil was not heavy clay. Manures to the value of more than Rs. 56,000 were sold during 1097 by departmental and private agencies, to the latter of which a liberal commission is allowed. Arrangements have been made for the employment of Co-operative Societies as sub-agents for the sale of manure, and six Societies have already started on this work, one advantage of the system being that these Societies can sell manure to their members on credit and realise the cost in easy instalments. The Agricultural Middle School at Alwaye, referred to in paragraph 12 of my Address last year, was opened on the 1st Edavam, 1097, the class consisting of 4 departmental subordinates and 28 outsiders. A farm and a workshop are attached to the school and instruction is imparted in Malayalam in both the theory and the practice of agriculture, prominence being given to field work. The period of training is two years. Sustained efforts at popularising the silk industry are being made and a block of lands comprising 200 acres in the Anad *pakuthi* of the Nedumangad taluk has been subdivided into five-acre plots and earmarked for assignment for mulberry cultivation to the pupils trained in silk-worm rearing, who are mostly drawn from the depressed classes. The overseer attached to the Silk Farm in Trivandrum has returned after a course of practical training in rug-making and carpet-weaving, and a provision of Rs. 2,000 has been allotted in the budget of the current year to enable these industries also to be taught to the pupils in the farm.

20. Fisheries.—Arrangements have been made at Nindakarai near Quilon, for conducting experiments in breeding and curing marine fish, and the number of fish-curing yards has risen from three to five. Fish-curing yards will also be opened shortly at Colachel and the Cape and an employé of the Fisheries Department has been deputed for training in fish-canning methods at Chaliyam in Malabar.

21. Industries.—The attention of the Department of Industries during the period under review has been mainly directed towards the investigation of conditions favourable to the establishment of new industries, the introduction

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